

Montana Laboratory Sentinel



Updates from the MT Laboratory

08/04/2010

Biosafety Cabinet (BSC) Safety Part 2 of 2

The BSC must be certified when installed, whenever moved, and at least annually. This certification should be conducted by accredited personnel. Each time you use the BSC you should check the expiration date on the certificate. You should also check the sash height (8-10 inches above the base of the opening) and the pressure gauge, and make sure alarms are ON. It is important to monitor the airflow before each use and after any power fluctuation. One way is to tape a piece of Kimwipe to the sash and observe the directional airflow. Another way is to monitor the magnehelic gauge reading by documenting the previous certification reading, and recording the gauge reading each day of use. A change of 15% up or down may indicate a problem, and the BSC should be checked.

If the BSC has been shut down, allow the blowers at least four minutes for the cabinet to purge before use. Wipe all surfaces with 70% alcohol and 1:100 bleach solution (followed by a water rinse) or other disinfectant. Load the BSC with all needed supplies (placed toward the back) before work, but do not overload the cabinet. It is important that the grills in the front and rear are not blocked. If there is a drain valve under the work surface, make sure it is closed. Also, allow the BSC to run for at least one minute to allow it to stabilize before beginning work. Adjust your chair height so that your face is above the front sash opening and the bottom of the glass screen is even with your underarms. Do not work with more than one person inside the cabinet so as not to compromise the air curtain at the front opening.

Work in the center of the work area (or at least 4 inches from the front grille) and move arms in and out

slowly, perpendicular to the face opening of the BSC. Do not go in and out of the cabinet or move in a rapid, sweeping motion. Keep clean supplies separate from dirty ones, and disinfect materials prior to their removal from the BSC. When all work is complete, seal and remove biohazardous waste, and disinfect the work surface, rear wall, sides, and inside the front window. Leave the cabinet running, if possible, to allow time for the contaminated air to continue filtering out.

If a spill occurs in the BSC, clean it promptly. Cover the spill with an absorbent material and carefully pour an appropriate disinfectant onto the absorbent. Wipe starting at the outside edge of the spill and in toward the center. Larger spills may require disinfectant to be poured onto the cabinet surface and through the grilles into the drain pan. Allow a 20 to 30-minute contact time to ensure decontamination. Empty the drain pan and flush with water. Make sure to remove any bleach residue inside the cabinet (with a water rinse.) Items removed from the cabinet should be autoclaved (if autoclavable) including gloves, lab coat, and contaminated cleaning cloths. Once the cabinet



has been cleaned, leave BSC on for at least 10 minutes before returning to work. This will allow any contaminated air to continue to filter out of the cabinet and will allow the cabinet to stabilize. Other important safety points to remember when using a BSC are:

Do not tape the biohazard bag to the outside

Do not store materials on top of BSC

Do not use volatile chemicals inside the BSC (BSC fans NOT spark proof, and chemical use may result in fire/ explosion.

Do not use Bunsen burners or open flame. This can cause damage to the HEPA filter, and it is a fire hazard!

As with any piece of lab equipment, personnel must be trained in the proper use of it and what to do if the BSC fails (power outage, fan failure)

As with any piece of lab equipment, the cabinet must be maintained.

If you have questions about the selection or safe use of a BSC, refer to the Biosafety in Microbiological and Biomedical Laboratories (BMBL) Manual. A PDF version is available at <http://www.cdc.gov/biosafety/publications/bmbl5/BMBL.pdf>

The 2010 Laboratory Services Manual, effective 7/1/10-6/30/11 is available online at: <http://www.dphhs.mt.gov/PHSD/Lab/lab-index.shtml>

(click on Laboratory Services Manual on the left side of the page.) This PDF document will be replaced as changes occur (see the version number and posting date) and can be downloaded to your local drive for your convenience. We will not be distributing hard copies this year as a means of cutting cost. If you have any questions about laboratory services, please call our toll free number: (800) 821-7284



LABORATORY SERVICES BUREAU

PUBLIC HEALTH LABORATORY

LABORATORY SERVICES MANUAL

Effective July 1, 2010 to June 30, 2011

Do alcohol-based hand sanitizers kill all types of bacteria and viruses?

There are three main categories of viruses and bacteria that require the use of soap and water to physically remove the spores from the surface. The Centers for Disease Control and Prevention (CDC) recommends that healthcare workers wash their hands with non antimicrobial or antimicrobial soap and water for the following categories of viruses and bacteria that are not susceptible to alcohol-based hand gels:

Nonenveloped or nonlipophilic viruses:

Norovirus

Calicivirus

Picornavirus

Parovirus

Bacterial spores:

B. anthracis (anthrax)

B. cereus (food poisoning)

C. botulinum (botulism)

C. tetani (tetanus)

C. perfringens (gas gangrene)

C. difficile

Protozoan oocysts:

Amebic dysentery

Giardia lamblia

Posted by Terry Jo Gile, MT(ASCP)MA Ed.

Information can be found at:

<http://safetysavvy.blogspot.com/2008/03/do-alcohol-based-hand-sanitizers-kill.html>

Did You Know...

That you do not have to spend a lot of money to have a hands-free sink in your lab. There are faucet adapters available for a nominal cost, no plumber needed...

MT Communicable Disease Update Week 28 Ending 07/17/10 Released 7/30/10

This newsletter is produced by the Montana Communicable Disease Epidemiology Program.
Questions regarding its content should be directed to 406.444.0273 (24/7/365).

<http://cdepi.hhs.mt.gov>

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DISEASE INFORMATION

Summary – MMWR Week 28 - Ending 7/17/10 – Disease reports received at DPHHS during the reporting period June 27th through July 3rd, 2010 included the following:

- Vaccine Preventable Diseases: None
- Invasive Disease: *Streptococcus pneumoniae* (1)
- Enteric Diseases: Campylobacteriosis (6), *E. coli* O157:H7 (1)
- Other Conditions: None

Travel Related Conditions: Dengue Fever (1), Lyme Disease (1)

NOTE: The report has multiple pages reflecting the following information: (1) vaccine preventable and enteric diseases YTD; (2) other communicable diseases YTD; (3) cases just this past reporting week; (4) clusters and outbreaks; and (5) an STD summary.

THE "BUZZ"

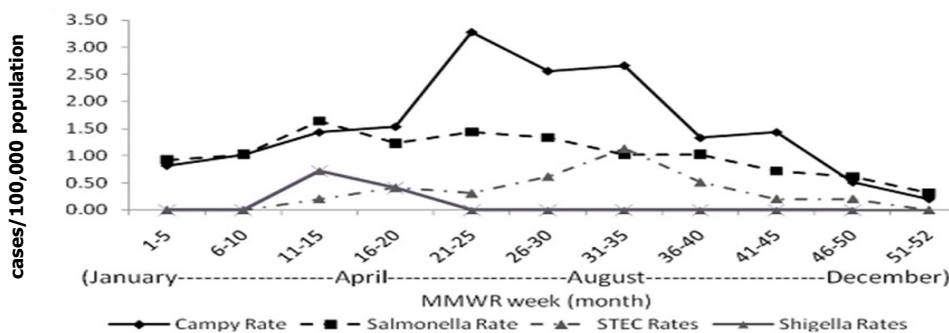
Campylobacter Outbreak - The Montana Department of Public Health and Human Services (DPHHS) recently received numerous reports of diarrheal illness in visitors to the Hebgen Lake area of Gallatin County. The causative agent in many of these cases has been confirmed as the bacterium *Campylobacter*. Several ill people have been hospitalized.

Campylobacter bacteria cause an infectious disease called Campylobacteriosis. Most people who become ill with campylobacteriosis get diarrhea, cramping, abdominal pain, and sometimes fever within two to five days after exposure to the organism. However, onset can occur as early as one day and as late as ten days after exposure. The diarrhea may be bloody and can be accompanied by nausea and vomiting. The illness typically lasts one week. In persons with compromised immune systems, *Campylobacter* occasionally spreads to the bloodstream and causes a serious life-threatening infection. Health Alert Network reports on this ongoing outbreak can be viewed here:

<http://www.dphhs.mt.gov/PHSD/ph-informatics/PH-informatics-HAN-message-archive.shtml>

Enteric Illness Investigation – Summer time brings outdoor fun complete with water sports, BBQs, potluck events, increased human – animal contact, and typically higher rates of enteric illness in MT (Figure). Collecting timely information is of utmost importance during an enteric illness investigation. Identifying possible sources of illness can provide information useful for public health messaging and education that may be important and unique to our state. Most cases of enteric illness in Montana and the United States appear sporadically, however, cases are sometimes linked to local and national outbreaks. The earlier information is gathered from an ill person, the better the patient's recall will be, and the better the chance becomes of identifying a source. Checklist questionnaires combined with an open ended 3 -5 day food history provide the most thorough types of exposure histories. The MT Communicable Disease Epidemiology program is working to provide tools for local health departments to use during enteric illness investigations. To download exposure questionnaires and protocols for Shiga toxin-producing *Escherichia coli* (STEC) and *Salmonella*, or a form for collecting general complaint information when a pathogen has not been identified, log on to the TCC at https://www.montanapublichealthtcc.org/kc/login/login.asp?kc_id=kc0001&strUrl=http://www.montanapublichealthtcc.org/Default.asp enter your user name and password, and enter the FCS Team Room, or visit: http://www.dphhs.mt.gov/PHSD/epidemiology/documents/E_coliMT.pdf or http://www.dphhs.mt.gov/PHSD/epidemiology/documents/Salm_MT.pdf

Check back for new protocols and additional pathogen specific questionnaires coming soon!

Rates and seasonality of bacterial enteric illness, Montana, 2009

West Nile Virus – The mosquitoes are biting and it's time to think about WNV in MT. To date, MT has had no reports of human WNV illness, however, now is the time to start reminding people about the importance of mosquito control measures and WNV prevention. The best protection against WNV is to avoid being bitten by mosquitoes. This can be accomplished by following a few simple guidelines:

- Mosquitoes bite most often at dawn and dusk, wear long pants and long sleeved shirts if you are out during these hours.
- Use a mosquito repellent, DEET is most effective at repelling mosquitoes
- Empty uncovered containers of standing water that may be near or around the home
- Change outdoor pet water frequently

If you'd like "Fight the Bite" posters or brochures contact us at (406) 444-0273. CDC WNV educational materials are available at http://www.cdc.gov/ncidod/dvbid/westnile/prevention_info.htm.

INFORMATION / ANNOUNCEMENTS

Bed Bugs – Bed bugs are often thought to be ancient history and have been mired in song and story. However, in recent years, bed bugs have made a striking comeback in the United States, and have been reported in Montana. Although they are not known to transmit disease, bed bug infestations may result in irritating, itchy bites and anxiety. If a bed bug infestation is suspected, certain steps must be taken to eliminate the bugs, including consultation with a pest management professional. **The Michigan Department of Community Health has gathered experts from across the state government, local municipalities and industry groups to develop resources useful for combating bed bug infestations and for preventing the spread of bed bugs. To view these resources and learn more about bed bugs: visit: http://www.michigan.gov/emergingdiseases/0,1607,7-186-26346_25949_55522---,00.html**

Lyme Disease Testing – Although *Ixodes scapularis*, the tick vector for Lyme disease has not yet been found in MT, Lyme disease is sometimes diagnosed in MT residents that have traveled to Lyme disease endemic areas. Lyme disease can be difficult to diagnose and **clinical presentation coupled with specific laboratory testing is necessary to confirm a case of Lyme disease.** The current CDC recommendations for laboratory confirmation of Lyme disease include: 1) a positive culture for *Borrelia burgdorferi* **OR** 2) a two-step process for testing blood –The first step uses an ELISA or IFA test. If this test is positive: A second test using a Western blot should be run to confirm the initial ELISA or IFA test

Serology is the most common test used to test for Lyme disease. A positive ELISA or IFA followed by a positive Western blot coupled with a clinical marker for the disease (erythema migrans (EM), the initial skin lesion that occurs in 60%-80% of patients, with a known exposure, or a late clinical manifestation including rheumatologic, neurologic, and cardiac abnormalities), and illness onset date are necessary to confirm a case of Lyme disease. For more information visit http://www.cdc.gov/ncidod/dvbid/lyme/ld_humandisease_diagnosis.htm